

Potential Collaboration on Clinical Epidemiological Studies and Prevention Trials in China



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CICAMS Founded in 1958, is the largest comprehensive National Cancer Center in China. It can accommodate 1,100+ in-patients with an annual inpatient load of 10,000+ and outpatient of 240,000+. There are more than 1,600 employees including 220 professors and associate professors.

Four Broad Areas of Activity in Dept. of Cancer Epidemiology, CICAMS

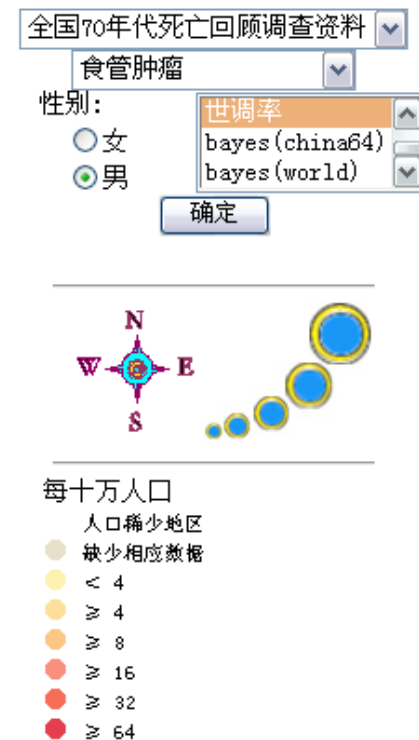
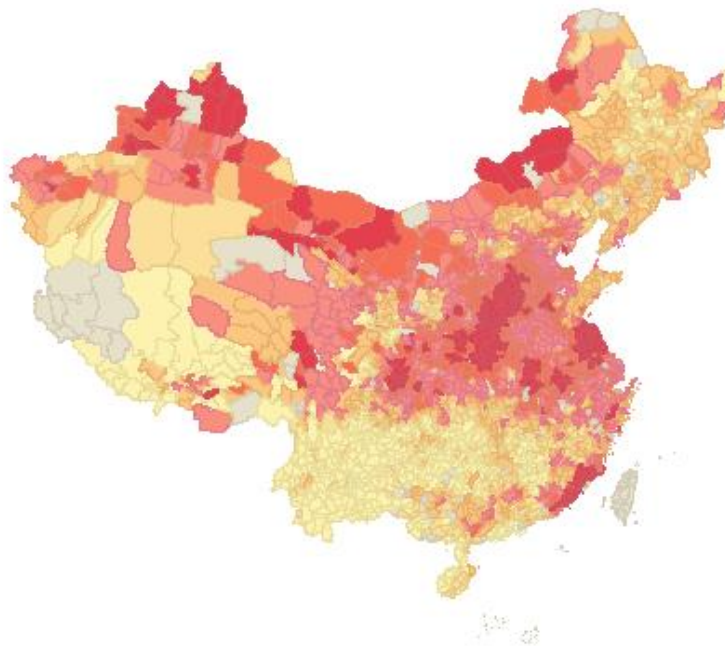
- I. Cancer Database, Academic Course and Outcome Research
- II. Observational Epidemiologic Studies
- III. Early Detection & Screening Research
- IV. Prevention Trials

I. National Cancer Database, Academic Course & Outcome Research

- Establishment of Chinese National Cancer Database (cancernet.cicams.ac.cn) (MOST)
- Cancer Database of National Data Sharing System for Medical Sciences (MOST)
- Cancer prevention and control academic course (CFC/pfizer)
- Outcome research on early detection/prevention of cervical and esophageal cancers (MOST/MOH)

China Cancer Data Sharing System (Supported by MOST)

Clinical Sciences Center
National Data Sharing System for Medical Sciences
(CSC/NDSS-MS)





Data Source

Mortality & Incidence



- China national cause-of-death surveys
- Data of cancer register
- Data of cancer register in Cixian Hebei
- Data of cancer register in Tianjin

Cancer prevention in areas with high risk



- Esophageal cancer prevention in Henan
- Cervical cancer prevention in Shanxi
- Lung cancer prevention in Yunnan

Clinical Oncology



- Radiation
- TMR from Cancer Hospital CICAMS
- TMR from Cancer Hospital Tianjin
- TMR from Cancer Hospital Ci county

Encoding Data



- Δ ICD10
- Δ GB6565 86
- Δ GB3304 82
- Δ ICDO
-

II. Observational Epidemiologic Research

- **Prospective study on the natural history of HPV infection, nutrition, immunologic factors and vaccine/chemo prevention for cervical cancer in Shanxi, China (N=13,000+)**
- **Environmental and biological monitoring pilot study for polycyclic aromatic hydrocarbons (PAH) in Linxian, China (NCI/NIH)**
- **Prevalence surveys of HPV infection and cervical neoplasia in China (N=8000, IARC/CCF/UNC)**
- **HCC BRIDGE Study: Expanding Knowledge of Hepatocellular Carcinoma Treatment and Outcomes in China (Bristol-Myers Squibb)**

Zhao FH, et al *Int J Cancer*. 2006;118(2):442-8. Shi JF et al. *Am J Epidemiol*. 2009;170(6):708-16. Li LK, et al. *Br J Cancer*. 2006; 95(11):1593-7; Dai M, et al. *Br J Cancer*. 2006; 95(1): 96-101; Wu RF, et al. *Int J Cancer*. 2007;121:1306-11.

III. Early Detection & Screening Research

- **Cervical cancer screening studies in Shanxi, China (SPOCCS I-II)**
N=2000+9000
(Terry Fox Foundation, CCF, NCI/NIH, UNC)
- **Screening technologies to advance rapid testing for cervical cancer prevention (START). N=12000,**
Grant of Bill & Melinda Gates Foundation
- **Early Detection of Lung cancer in Chinese Tin Miners in Yunnan (NCI/NIH)**
- **Early detection and treatment of esophageal cancer in North-central China (NCI/NIH)**

Qiao YL, et al: Lancet Oncology 2008;9(10):929-36. Wei et al; Gut. 2005;54(6):759.
Wang et al; Gut.2005; 54(2):187. Qu CX, JNCI. 2007;99(16):1240-7.

Screening Year	Study Population	Sample Size	Sensitivity (%)	Specificity (%)	Yonden's Index (%)
1999	Xiangyuan,Shanxi	1997	97.6	84.8	82.4
2001 2002	Xiangyuan and Yangcheng, Shanxi	9034	95.5	83.3	78.8
2003	Xiangyuan,Shanxi	1803	95.7	84.9	80.6
2004	Jing'an,Jiangxi	1995	96.7	82.8	79.5
2004	Shenzheng,Guangdong	1109	100	88.5	88.5
2004	Yangchen,Shanxi	721	93.8	87.8	81.6
2005	Wudu,Gansu	2034	78.1	93.8	71.9
2005	Shenyang,Liaoning	710	100	80.4	80.4
2006	Qinxian,Shanxi	2493	100	89.3	89.3
2006	Xiangyuan,Shanxi	884	100	86.3	86.3
2006	Beijing	795	100	87.2	87.2
2006	Hetian,Xinjiang	883	94.1	94.5	88.6
2006	Xinmi,Henan	879	100	88.7	88.7
2007	Shanghai	774	100	88.1	88.1
2007	Qinxian,Shanxi	818	100	88	88
2007	Wuxiang&Xiangyuan	2388	97.1	85.6	82.7
2008	Jiangsu	316	90	87.6	77.6
2008	Xiangyuan & QinXian	1056	96	86	82

***Physician-collection sample HC-2 HPV testing – Qiao et al¹**

IV. Prevention Trials Research

- **Nutrition Intervention Trials in Linxian – Followup Studies, (N=33,000; NCI/NIH)**
- **A study of Selenomethionine and Celecoxib as Chemopreventive Agents for Esophageal Squamous Dysplasia in Linxian, China (NCI/NIH)**
- **A controlled trial of endoscopic screening & prevention study for esophageal cancer in 3 Counties, China (Task Force of the 10th Five-Year Plan of MOST)**
- **HPV prophylactic vaccine clinical trials; MSD N=3000; GSK N=6000**

Prevention strategies and actions

- National cancer prevention & control strategy by MOH
- National cervical cancer prevention consortium (lead by Yu Peng)
- The Guidelines for early detection, diagnosis & treatment for 9 major cancers are reviewed by via national consensus meeting & endorsed by MOH (cervical Ca as the model);
- Two demonstration centers (Shenzhen & Xiangyuan) for cervical cancer prevention & control have been established by both MOH & CFC. (Lancet Oncology. Vol 6, Page 139-141, 2005)
- National cancer early detection/treatment program has been initiated in 2009 funded by MOH & MOF (10m cervical Ca, 1.2m breast Ca)
- Training course and WHO Guide book etc
- Government Task-Force for outcome research on CxCa prevention
- Recommendation of National CxCa prevention/control in review

Cancer Control Knowledge Into Action WHO Guide for Health Programmes



Planning

PLANNING

A practical guide for programme managers on how to plan overall cancer control effectively, according to available resources and integrating cancer control with programmes for other chronic diseases and related problems.

Cancer Control Knowledge Into Action WHO Guide for Health Programmes



Prevention

PREVENTION

A practical guide for programme managers on how to implement effective cancer prevention by controlling major avoidable cancer risk factors.

Cancer Control Knowledge Into Action WHO Guide for Health Programmes



Early Detection

EARLY DETECTION

A practical guide for programme managers on how to implement effective early detection of major types of cancer that are amenable to early diagnosis and screening.

Pre-planning

CHINA

Example of a “top-down” planning process

An example of a “top-down” cancer control planning process is provided by the Programme of Cancer Prevention and Control in China (2004–2010) initiated in 2002 and launched in 2003. China is a lower middle-income country, with a centralized government structure. Cancer represents 20% of all deaths and is, at present, the leading cause of death in urban populations. Traditionally there has been excessive reliance on treatment-oriented approaches, neglecting prevention strategies.

Alarmed by rising cancer trends, the department for disease control of the Ministry of Health initiated the planning process. A core team was in charge of developing the plan in close coordination with the prevention and control of other diseases. The major difficulty during the planning phase was to agree on the objectives and priorities of the plan. Finally, the most relevant and feasible ones were selected. In June 2003, the plan was published on the web for comments from the public. Meanwhile suggestions were collected from more than 60 experts nationwide via mail. In August 2003, the final draft was approved at a symposium that brought together relevant leaders of the Ministry of Health and other experts.

The priorities of the plan include: prevention (e.g. tobacco control, hepatitis B vaccination, control of occupational risk factors); early detection and treatment of major cancer types (uterine, cervix, breast, stomach, liver, nasopharynx, colon and rectum); rehabilitation and palliative care; and expansion of cancer registries. The biggest problem encountered in implementation is insufficient funding to carry out the biennial action plan, which mainly focuses on early detection and a public education campaign. However, there are ongoing efforts to identify further funding to support the activities.

Source: Programme of cancer control and prevention in China, 2004–2010 (<http://www.chinacancernet.org.cn/links/english.html>, accessed 18 May 2006). Additional information provided by L. Kong, Deputy Director General, Disease Control Department, Ministry of Health.



Guideline of early detection for main cancer in China

THE LANCET Oncology

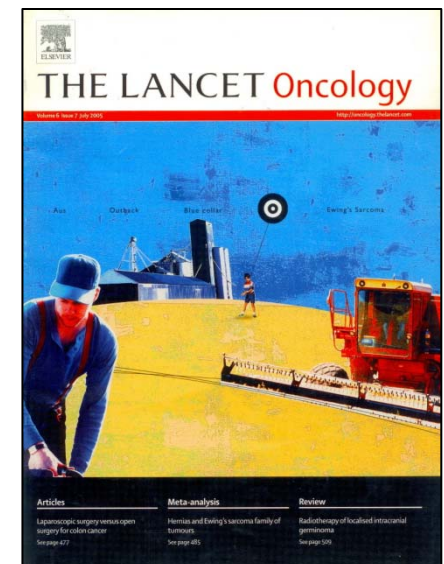
Volume 6. Issue 7. July 2005

Chinese government urged to tame cancer threat

Although China's gross domestic product secured its place as a recognised economic power with an increasing importance worldwide, chronic disease, such as cancer, is overshadowing the country's economic success. Cancer now claims 1.4–1.5 million lives a year in China, compared with 700 000 in the 1970s—equal to one in every five deaths. This mortality could double to 3 million in the next 20 years if the government fails to take effective measures now.

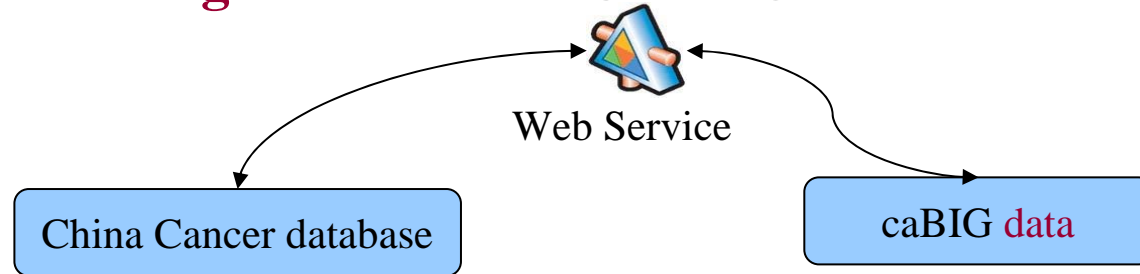


A symposium held in Hebei highlighted the fight against cancer



Potential Collaboration

1. **Data sharing** between caBIG and Cancer Database in China



2 . **Adoption** of caBIG **tools** in epidemiological studies and prevention trials

- Cancer Clinical Trial Suite in clinical and prevention trial
- Other caBIG **tools** in epidemiological study

3. **Development** of caBIG **tools** for China

- Information protocol share and localization.
- Development of data exchange tools.
- ...

Thanks for Listening and Welcome for Collaboration!

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